In the Specification

Please amend the abstract as follows.

A Viterbi decoder includes a number of classical Add-Compare-Select units and a number of further ~~an~~ Add-Compare-Select unit having a lower complexity butterfly unit (300) having only two adder means, such that the further Add-Compare-Select unit has a butterfly unit (300) comprising: first adder means (310) for receiving a first path metric and a branch metric and for producing at its output the addition thereof; and second adder means (320) for receiving a second path metric and said branch metric and for producing at its output the addition thereof. First comparator means (330) are coupled to receive the output of the second adder means and coupled to receive the first path metric for comparing therebetween. Second comparator means (340) are coupled to receive the output of the first adder means and coupled to receive the second path metric for comparing therebetween. First selection means (350) for selecting between the second adder means output and the first path metric produce a first survivor path metric in dependence on the first comparator means comparison. Second selection means (360) for selecting between the first adder means output and the second path metric signal produce a second survivor path metric in dependence on the second comparator means comparison. Only two adder means are used for processing metric transitions as a second branch metric is identified as having a value of zero.

~~A Viterbi decoder including an Add-Select-Compare unit with a new butterfly unit (300) having only two adders (310, 320), compared with a conventional butterfly unit's four adders, for processing a trellis transition having branch metric of zero. The new butterfly unit (300) is thus of reduced complexity (saving 8% of the total Viterbi decoder complexity in a typical example). Methods are also disclosed for producing suitable metrics for use with the new butterfly unit, and for optimizing these metrics by dynamic scaling (particularly suitable for OFDM applications) and adaptation for additive noise.~~

~~The invention is particularly suitable for high-speed, low-power implementations for broadband communications applications, and may be implemented in software or hardware.~~

Please amend the Statement of Invention as follows.

In accordance with a second aspect of the present invention there is provided a method of producing metrics, for use in a Viterbi decoder, as claimed in claim 4 ~~2~~.

In accordance with a third aspect of the present invention there is provided a butterfly unit, for use in a Viterbi decoder Add-Compare-Select unit, as claimed in claim 11 ~~8~~.